



Daring you to ask

# What if?

Centennial Challenges



# centennialchallenges



## About Us

- NASA's first prize program
- Established to conduct prize competitions in support of the Vision for Space Exploration and ongoing NASA programs
- Inspired by Orteig Prize and Ansari X Prize, among others
- Established (per NASA Prize Authority, 51 USC 20144): “to stimulate innovation in basic and applied research, technology development, and prototype demonstration that have the potential for application to the performance of the space and aeronautical activities of the Administration.”



NASA  
Prize  
Authority

Owner: Space Technology Mission Directorate

Result: Technology development & demonstration








Prize: Million+ , US Winners only

Timeframe: Multi-year

Partner: non-profit only; can fund additional prize purse

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## NASA Crowdsourcing Initiatives

						
<b>Duration</b>	Years	Months	Days/Weeks	Months	Months	Weeks
<b>Awards</b>	\$100K+ to \$Ms	\$1K to \$250K	Recognition	Recognition	Varies	Recognition
<b>Products</b>	Technology demos	Ideas, design, software	Software apps/tech concepts	Scientific observations and analysis	Design	Ideas, info
<b>Who</b>	US-led (to win prize)	Worldwide; US-led (COMPETES)	Worldwide	Worldwide	Students (US)	NASA
<b>Authority</b>	NASA prize authority	Procurement; COMPETES Act	Space Act	Amer. Innov. and Competitiveness Act	Space Act; grants & cooperative agreements	N/A
 These opportunities can be accessed at <a href="http://www.nasa.gov/solve">www.nasa.gov/solve</a>						





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2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019

Power Beaming

Prize Purse (PP) : \$900,000 | Awarded: \$900,000

Strong Tether

PP: \$2,000,000\*

Lunar Lander

PP: \$2,000,000 | Awarded: \$2,000,000

Personal Air Vehicle

PP: \$2,000,000 | Awarded: \$250,000

Regolith Excavation

PP: \$750,000 | Awarded: \$750,000

Gen Aviation

PP: \$350,000 | Awarded: \$97,000

Glove

PP: \$750,000 | Awarded: \$550,000

MoonROX

PP: \$1,653,000 | Awarded: \$1,470,000

Green Flight

PP: \$1,500,000 | Awarded: \$885,000

Sample Return Robot

NanoLaunch

Night Rover

UAV Ops

PP: \$100,000 | Awarded: \$90,000

Mars Ascent

PP: \$5,000,000 | Awarded: \$460,000

Cube Quest

PP: \$3,100,050 | Awarded: \$741,024

3D-Printed Habitat

PP: \$500,000 | Awarded: \$ TBD

Vascular Tissue

PP: \$900,000 | Awarded: \$570,000

Space Robotics

\$ Award(s) Made

No \$ awarded\*

Active Challenge

Opened/No Entrants

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## Cube Quest

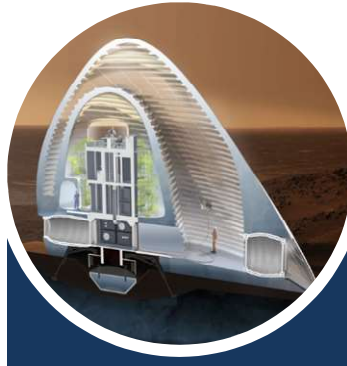


\$5M prize

CubeSat propulsion, communication around Moon and into deep space.

Top 3 teams awaiting EM-1 ride.

## 3D-Printed Habitat

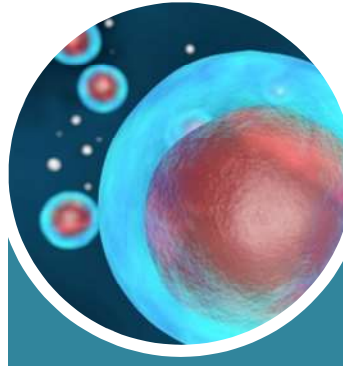


\$3.1M prize

Additive construction for in-space habitats using regolith and recyclables.

Currently in Phase 3: Level 3.

## Vascular Tissue

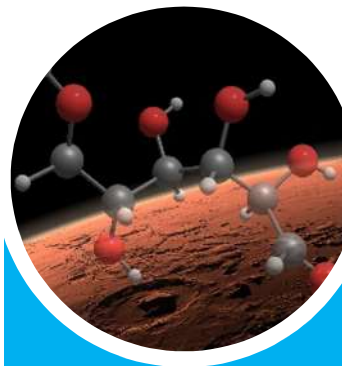


\$500K prize

3D-printed human organ tissue to advance medicine in space and on Earth.

First-to-demonstrate.

## CO<sub>2</sub> Conversion

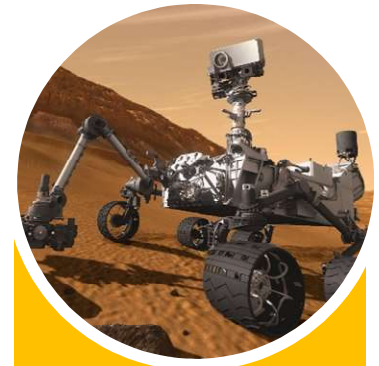


\$250K prize

Bio-manufacturing using carbon dioxide and in-situ resources on Mars.

Opened August 30 for registration.

## Space Robotics II



\$1.5M prize

Autonomous robotic navigation and decision systems for ISRU tasks.

RFI/RFP posted. Requesting formal ATP from HQ.

## Astronaut Glove Challenge

<https://www.youtube.com/watch?v=d9uo128zZQk>

Finding Innovative Ideas from non-expert EXPERTS



# Questions?



@NASAPrize



/NASACC



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[www.nasa.gov/winit](http://www.nasa.gov/winit)